

CLAIMS

I Claim:

Claim 1 - A system for concentrating blood cells, comprising in combination:

a first blood bag adapted to receive blood from a source,
means within said blood bag to prevent coagulation,
reagent means removably coupled to said blood bag,
means for separating white blood cells containing plasma supernatant from said first blood bag and into a satellite white cell bag,
means for separating white cells from the plasma in said white cell bag,
and

a satellite plasma bag removably coupled to said white cell bag for receiving the expressed supernatant plasma from said white cell bag.

Claim 2 - The system of claim 1 further including cryoprotectant means operatively coupled to said white cell bag.

Claim 3 - The system of claim 2 further including a stem cell freezing bag operatively coupled to said white cell bag for transferring contents from said white cell bag to said stem cell freezing bag.

Claim 4 - The system of claim 3 wherein said stem cell freezing bag includes a plurality of compartments therewithin.

Claim 5 - The system of claim 4 wherein said plurality of compartments include means for sealing said compartments into isolated sequestered areas and means on said sequestered areas for indicating the origin of said freezing bag partitioned area.

Claim 6 - The system of claim 5 including means for washing cryoprotectant from said contents of said freezing bag.

Claim 7 - The system of claim 6 further including means for metering said cryoprotectant into said white cell bag.

Claim 8 - The system of claim 7 further including clamping means to constrict passage from one bag to another.

Claim 9 - A method for concentrating placental stem cells, comprising the steps of:

placing blood into a first blood bag,
preventing coagulation within said blood bag,
coupling reagent means into said blood bag,
separating supernatant from said first blood bag and placing the supernatant into a white cell bag,
separating white cells from plasma in said white cell bag,
and removably coupling a plasma bag to said white cell bag and expressing the plasma from the white cell bag into said plasma bag.

Claim 10 - The method of claim 9 further including coupling cryoprotectant means to said white cell bag.

Claim 11 - The method of claim 10 further including transferring contents from said white cell bag to a stem cell freezing bag,
and freezing the contents of the stem cell freezing bag.

Claim 12 - The method of claim 11 further including sequestering the contents in said stem cell freezing bag into a plurality of partitioned areas prior to freezing the contents.

Claim 13 - The method of claim 12 further including labeling the partitioned areas of the stem cell freezing bag to identify the source of the cells contained therewithin.

Claim 14 - The method of claim 13 further including removing one of the partitions from the stem cell freezing bag to confirm the contents.

Claim 15 - The method of claim 14 including thawing the contents of the stem cell freezing bag upon ascertaining the matching of that bag.

Claim 16 - The method of claim 15 including the step of washing cryoprotectant from the contents of one partitioned area of the stem cell freezing bag.

Claim 17 - The method of claim 16 including the step of diluting the washed contents of the stem cell freezing bag and injecting the contents into a patient.

Claim 18 - A therapeutic product comprising white blood cells in a solution having a constituent presence of at least one white cell part per one hundred red cells and a stem and progenitor cell viability greater than 80%.

Claim 19 - The product of claim 18 further comprising said white cells in a solution having an intracellular cryoprotectant concentration below 1%.

Claim 20 - The product of claim 18 in which the stem and progenitor cells have an osmolarity in the range of three hundred milliosmols.

Claim 21 - The product of claim 20 wherein the prescribed dose of said product is in the range of ten to twenty milliliters.

Claim 22 - The product of claim 21 where the stem and progenitor cells are present in the ratio of approximately 90% with respect to the original donated blood.

Claim 23 - The product of 18 wherein there is a reduction of 90% of the red cells from an original blood donation.

Claim 24 - A therapeutic product comprising white blood cells in a solution having a constituent presence of at least one white blood cell per one hundred red blood cells formed from the process of:

placing blood into a first blood bag,
preventing coagulation within said blood bag,
coupling reagent means into said blood bag,
separating supernatant from said first blood bag and placing the supernatant into a white cell bag,
separating white cells from plasma in said white cell bag,
removably coupling a plasma bag to said white cell bag and expressing the plasma from the white cell bag into said plasma bag,
coupling cryoprotectant means to said white cell bag,
transferring contents from said white cell bag to a stem cell freezing bag,
freezing the contents of the stem cell freezing bag,
sequestering the contents in said stem cell freezing bag into a plurality of partitioned areas prior to freezing the contents,
labeling the partitioned areas of the stem cell freezing bag to identify the source of the cells contained therewithin,
removing one of the partitions from the stem cell freezing bag to confirm the contents,

thawing the contents of the stem cell freezing bag upon ascertaining the matching of that bag,

washing cryoprotectant from the contents of one partitioned area of the stem cell freezing bag, and

diluting the washed contents of the stem cell freezing bag and injecting the contents into a patient.

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